Periscope.

PATHOLOGICAL.

A Case of Subacute Nuclear Opthalmoplegia and Paralysis of the Extremities with Post-mortem Findings.—Kalischer (*Zeitschr. f. Nervenheilk.*, Vol. vi , pt. 3 and 4, 1895).

Male, 64 years old, of good family and personal history developed without apparent cause (except possibly sorrow, anxiety and misuse of tobacco); first, a right side opthalmoplegia with associated diplopia and soon after a similar condition on the left side. In a few days the external eye-muscles became paralytic, while the internal muscles which in the beginning were entirely free became paretic. General disturbances, such as fever, headache, optic neuritis, vomiting, vertigo, stupidity, etc., were entirely absent. The other cranial nerves were unimpaired, except for a slight weakness in the internal portion of the right facial. Nearly the same time, perhaps two or three weeks later, there developed a facial symmetrical paresis which went on to paralysis of the extremities, first the upper then the lower, and later the muscles of the buttocks. The extensors were involved more severely than the flexors, the distal ends of the extremities a little more than the proximal ends. Accompanying this there was loss of the tendon reflexes without ataxia and without loss of sense of position. Faradic irritability of the muscles and nerves was diminished, but there was not entire reaction of degeneration. No fibrillary twitchings and likewise no real atrophy of the paralyzed muscles during the course of the disease. Sphincters were intact and no disturbances of sensibility could be made out, although there was slight sensitiveness over the trunks of the cranial and spinal nerves in their peripheral distribution when they were subjected to pressure and also light paræsthesia of the hands. After a period of progression all the symptoms became stationary and there was in general a real remission. Especially after rest and in the morning the paralysis would be much improved, but a condition of exhaustion and fatigue would soon replace this. Four and one-half months after the beginning of the disease death occurred rather suddenly from respiratory paralysis without the previous occurrence of symptoms pointing to involvement of the medulla. Power of speech, of swallowing and the intellectual faculties had been undisturbed. Autopsy made twenty-two hours after death. Adhesion of the dura to the skull, especially over right frontal lobes. Over the pia there was some grayish white fluid which was especially noticeable over the convexity of the right hemisphere. Pacchionian bodies extremely large. No evidence of arterial degeneration at the base of brain. Otherwise brain and cord normal microscopically. Microscopical examination showed normal optic chiasm, optic nerves anterior to this, and nerves going to supply other eye muscles. No increase in the interstitial tissue in the nuclei of these nerves. Peripheral nerves and pieces of muscles, which had been removed, were found normal.

In dorsal spinal cord methyl blue stains show the anterior horn cells diffusely and blackly stained, the unformed ground substance is not sharply differentiated from the surrounding chromatic little wands, the nucleii is easily differentiated from the cells, but the body of the nucleus is very deeply stained. All the cells are poor in processes. The anterior lateral group is scant throughout. The changes in the cells are more marked in the lower portion of the dorsal cord than in the higher. Here the cells are in part pale and colorless, poor in chromatic substance and devoid of processes. Pieces of the cord hardened in the chrome salts and stained with aniline dyes show in the cervical cord a sinking in of the anterior horns with numerous little holes which are apparent to the naked eye, representing the post-mortem dropping out of necrotic atrophic tissues. The ground work of the anterior horns is rarefied, the ganglionic cells are lessened in number and amorphous, poor in processes and diffusedly stained. The central, the medial and the anterior are more involved than the posterior lateral, although the defect would seem to be more in the posterior portion of the anterior horns. The right anterior horn is smaller and more pointed than the left. Below this some blood cells are found lying free in the tissues. The blood-vessels walls are not much changed.

The extra medullary anterior and posterior roots in the cervical region are extremely degenerated.

Throughout the entire cord in the gray matter were found in places dilatation of the blood-vessels and small hæmorrhages. No degeneration of the white matter except a very slight evidence of involvement of the columns of Goll and the part of the pyramidal column bordering on the gray matter. Pia mater, especially in cervical region, thickened at posterior part of cord.

Same condition of small hæmorrhages in the motor nuclei of the eye muscles in the vicinity of the aqueduct of Sylvius and a similar but very much slighter condition in the motor nuclei of the medulla. The sensory nuclei of the medulla were almost without exception not at all encroached upon. The right facial nucleus at its inferior end was less well developed than the left. At this level the bottom of the fourth ventricle is filled with innumerable blood-vessels, little holes and small clumps of blood. Higher up are seen small hæmorrhages laterally in the side of the floor of the fourth ventricle and the aqueduct. Ventrally to the posterior long bundle and mesially to the substantia ferruginea at this height was a large hæmorrhage. J. C.

Further Contributions to the Study of Spinal Disease Occurring in the Course of Pernicious Anæmia.—Nonne (*Deutsche Zeitschrift für Nervenheilkunde*, Bd. vi., p. 313).

The author, who had already contributed a valuable study of the changes found in the spinal cord in two cases of pernicious anæmia to the literature of the subject records in the present paper the results of the very thorough microscopic examinations of seventeen new cases of pernicious anæmia. A brief clinical history, a careful report of the physical condition prior to death, and a detailed account of the gross and microscopic changes found in the various organs, especially in the spinal cord, are given in each of the seventeen cases. The spinal cord in each case was scrutinized very thoroughly in order to detect the very slightest changes and to study the morbid processes in their very incipiency. From an anatomical point of view Nonne distinguishes three groups amongst his seventeen cases. In the seven cases in the first group no changes whatever or changes so slight as hardly to justify their being termed morbid were found; in some of these cases minute changes, such as swelling of a number of axis cylinders and their sheaths were noted in the region of the middle root zones. The author is inclined to regard these changes as the very first signs of disturbed nutrition in the affected area, although no positive statement to that effect can be made as yet.

The second group consists of three cases showing beyond a doubt the characteristic spinal lesions in the early stages: a few small and